



# UNITED STATES PATENT AND TRADEMARK OFFICE

HA

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/780,375	02/12/2001	Christoph Hauger	00014	7035

7590

07/21/2006

Walter Ottesen  
Patent Attorney  
P.O. Box 4026  
Gaithersburg, MD 20885-4026

EXAMINER
----------

FINEMAN, LEE A

ART UNIT	PAPER NUMBER
----------	--------------

2872

DATE MAILED: 07/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/780,375	<b>Applicant(s)</b> HAUGER ET AL.	
	<b>Examiner</b> Joshua L. Pritchett <del>301-591-2121</del>	<b>Art Unit</b> 2872	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 24 May 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 16-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 16-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 2/12/01 & 10/6/03 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

This action is in response to Amendment filed May 24, 2006. Claims 16, 21, 23 and 28 have been amended as requested by the applicant.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 23 and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Pensel (US 5,867,308).

Regarding claims 23 and 26, Pensel et al. discloses a surgical microscope (figs. 1-3) comprising a viewing unit (defined by 8, 14, and 18) for viewing an object (0) and defining a viewing beam path (figs. 1-3); an image projection module (2 and 7) for inputting image data into the viewing unit (column 5, lines 26-28), including an image display unit (2) for displaying the image data; and said image projection module includes a beam splitter (10) mounted in said viewing beam path; an image recording module (19 and 26) for recording an image of said object supplied by said viewing unit and including an image sensor (26) mounted to receive said image data from said image projection module; an image recording beam splitter (see, e.g., 28, fig. 4

Art Unit: 2872

and column 7, lines 8-15) mounted in said viewing beam path for directing said image of the object onto said image sensor; a recording device (19) connected to said image sensor for recording said image data and said image of said object; and a device (24) for synchronizing the illumination of said image display unit with said image sensor to avoid flickering (see column 5, lines 60-65).

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 24, 25 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pensel et al in view of Mercado, US 5,969,803.

Regarding claims 24 and 27, Pensel et al. further discloses that the imaging optics (7) are mounted downstream of said image display unit (2) and are arranged between said image display unit (2) and said beam splitter (10). Pensel et al. disclose the claimed invention except for the specifics of the imaging optics for projecting the image, i.e., said image projection module including a first and second plano-convex lens, a plano-concave lens, and a concave-convex lens. Mercado teaches a projection lens assembly (fig. 1A) for a microscope with a first (L4) and

Art Unit: 2872

second (L14) plano-convex lens, a plano-concave lens (L8 or L9), and a concave-convex lens (L10). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the projection lens assembly of Mercado in the system of Pensel et al. to provide enhanced aberration correction (Mercado, column 3, line 6).

Regarding claim 25, Pensel et al. in view of Mercado disclose the claimed invention except for the ratio of said first focal length and said second focal length being within a range from 1.9 to 2.5. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have focal lengths within the claimed ratio, since it is been held that discovering an optimum value of a result effective variable involves only routine skill in the art. One would have been motivated to adjust the focal lengths for the purpose of adjusting the size/magnification of the projected image. In re Antonie, 559 F.2d 618, 195 USPQ 6 (CCPA 1977) See also In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pensel et al. in view of Ernstoff et al., US 4,090,219.

Pensel et al. discloses the claimed invention except for the image display unit including a reflection display and wherein the brightness of said image display unit is increased by a time-dependent sequential illumination of the reflection display with only a single color. Ernstoff et al. teach in fig. 8, a reflection display (3 10, column 2, lines 57-58) illuminated sequentially with a single color as a function of time (in so far as the wheel can be stopped on a single color and, inherently, if more time is spent on a single color, it will be brighter than compared to a display exposed to sequential RGB illumination). It would have been obvious to one of ordinary skill in

Art Unit: 2872

the art at the time the invention was made to use the reflection display of Ernstoff et al. as the display means in the system of Pensel et al. to be able to provide high resolution and high brightness 911 color images (Ernstoff column 2, lines 24-26).

Claims 16, 19 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pensel et al. in view of Muller et al. US 5,657, 128.

Pensel et al. discloses a surgical microscope (figs. 1-3) comprising a viewing unit (defined by 8, 14, and 18) for viewing an object (0) and defining a viewing beam path (figs. 1-3); an image projection module (2 and 7) for inputting image data into the viewing unit (column 5, lines 26-28), including an image display unit (2) for displaying the image data; and said image projection module includes a beam splitter (10) mounted in said viewing beam path; an image recording module (19 and 26) for recording an image of said object supplied by said viewing unit and including an image sensor (26) mounted to receive said image data from said image projection module', an image recording beam splitter (see, e.g., 28, fig. 4 and column 7, lines 8-15) mounted in said viewing beam path for directing said image of the object onto said image sensor; and a recording device (19) connected to said image sensor for recording said image data and said image of said object. Pensel et al. discloses the claimed except for said recording device including an image mixer for receiving both said image data and said image of said object as electronic image data and for mixing said electronic image data therein', and wherein said image projection module has an input for receiving said image data as electronic image data and said image mixer is connected directly to said input for receiving said image data as said electronic image data applied to said input. Muller et al. teach a surgical microscope (see figs. 1 and 2)

Art Unit: 2872

including an image projection unit (25 and 31) and an image recording module (34 and 16).

Muller et al. further teach that one can electronically combine the data with an image mixer (4) via inputs (figs. 1 and 3) for providing an electronic mixed image (see column 5, lines 8-20, the image data is electronic as evidenced by fig. 1, where the only connection to display 5 is a wire connection). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the images electronically with an image mixer as suggested by Muller et al. to be able to provide better alignment/registration of the images (Muller et al., column 3, line 66-column 4, line 6).

Claims 17, 18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pensel et al. in view of Muller et al. as applied to claim 16 and further in view of Mercado.

Regarding claims 17 and 20, Pensel et al. in view of Muller et al. as applied to claim 16 further discloses (see Pensel) that the imaging optics (7) are mounted downstream of said image display unit (2) and are arranged between said image display unit (2) and said beam splitter (10). Pensel et al. in view of Muller et al. as applied to claim 16 disclose the claimed invention except for the specifics of the imaging optics for projecting the image, i.e., said image projection module including a first and second plano-convex lens, a plano-concave lens, and a concave-convex lens. Mercado teaches a projection lens assembly (fig. 1A) for a microscope with a first (L4) and second (L14) plano-convex lens, a plano-concave lens (L8 or L9), and a concave-convex lens (L10). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the projection lens assembly of Mercado in the system of Pensel et al. in view of Muller et al. to provide enhanced aberration correction (Mercado, column 3, line 6).

Art Unit: 2872

Regarding claim 25, Pensel et al. in view of in view of Muller et al. and Mercado as set forth above disclose the claimed invention except for the ratio of said first focal length and said second focal length being within a range from 1.9 to 2.5. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have focal lengths within the claimed ratio, since it is been held that discovering an optimum value of a result effective variable involves only routine skill in the art. One would have been motivated to adjust the focal lengths for the purpose of adjusting the size/magnification of the projected image. In re Antonie, 559 F.2d 618, 195 USPQ 6 (CCPA 1977) See also In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pensel et al. in view of Muller et al. as applied to claim 16 and further in view of Ernstoff et al., US 4,090,219.

Pensel et al. in view of Muller et al. as applied to claim 16 discloses the claimed invention except for the image display unit including a reflection display and wherein the brightness of said image display unit is increased by a time-dependent sequential illumination of the reflection display with only a single color. Ernstoff et al. teach in fig. 8, a reflection display (3 10, column 2, lines 57-58) illuminated sequentially with a single color as a function of time (in so far as the wheel can be stopped on a single color and, inherently, if more time is spent on a single color, it will be brighter than compared to a display exposed to sequential RGB illumination). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the reflection display of Ernstoff et al. as the display means in the



Art Unit: 2872

system of Pensel et al. in view of Muller et al. to be able to provide high resolution and high brightness full color images (Ernststoff column 2, lines 24-26).

### ***Response to Arguments***

Applicant's arguments filed May 24, 2006 have been fully considered but they are not persuasive.

Applicant argues the Pensel reference fails to teach synchronizing the illumination of the image display unit with the image sensor to avoid flickering. An LCD as taught by Pensel does not flicker, so flickering would be avoided regardless of synchronicity. Further the data processor (24) accepts and image from the CCD (6) and transmits the image to the LCD (2) for viewing by the observer of the image currently obtained from the sample. The examiner views this function as within the broadest reasonable interpretation of synchronizing. Pensel provides further discussion of the processor transmitting the signal to the LCD in col. 5 lines 20-34.

Applicant argues the Mercado use of the Mercado reference to teach the objective lens is “impractical and unlikely” due to the size of an object lens in lithography. Initially, the Mercado reference is not used to teach an objective lens, but is instead used to teach a projection lens system, which is not addressed by applicant’s arguments. Further, the standard for establishing a prima facie case of obviousness is not if the combination is “impractical and unlikely.” If there is a reasonable expectation of success and a motivation to combine the references the rejection establishes a prima facie case of obviousness. The applicant has failed to effectively rebut the prima facie obviousness rejection and therefore the rejection is maintained.

Art Unit: 2872

Applicant argues the Pensel reference does not disclose whether the recording module detects only the image of the viewing region or whether the image information is taken up thereby wherein the image of the viewing region is superposed with the image generated by a display. This limitation is not in the claim language therefore this argument is moot.

Applicant argues the component 23 of Muller is not an image sensor. Muller states laser light is imaged onto the detector (23; col. 5 lines 59-60). Therefore the examiner considers the element 23 as an image sensor.

Applicant argues no image mixing occurs in the process control unit of Muller. Muller states the process control unit is capable of superposing an image (col. 5 lines 8-20). Examiner considers superposing is a type of image mixing.

Applicant's arguments, see Amendment, filed May24, 2006, with respect to 35 U.S.C. 112 1<sup>st</sup> paragraph rejection have been fully considered and are persuasive. The 35 U.S.C. 112 1<sup>st</sup> paragraph rejection of claims 16-22 has been withdrawn.

### *Conclusion*

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO**

Art Unit: 2872


MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joshua L. Pritchett whose telephone number is 571-272-2318. The examiner can normally be reached on Monday - Friday 7:00 - 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew A. Dunn can be reached on 571-272-2312. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
**DREW A. DUNN**  
**SUPERVISORY PATENT EXAMINER**

Joshua L Pritchett   
Examiner  
Au 2872